

Appl. No. 10/070,971

Att. Docket No. 10191/2290

Response To Final Office Action of 12/31/03

Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1-4. (Canceled)

5. (Currently Amended) A device for controlling distance for a motor vehicle, comprising:

a distance control device for determining a setpoint time gap with respect to a vehicle driving ahead as a function of a traveling speed and of a driver-specified minimum time gap; and

at least one sensor for recognizing a poor visibility condition, the at least one sensor including at least one sensor for detecting a visual range in a vicinity of the vehicle using reflection measurement, the at least one sensor including at least one sensor for detecting a road condition and at least one sensor for detecting a level of brightness and adapted to recognize darkness[[,]];

wherein, in response to the poor visibility condition, the distance control device increases the setpoint time gap determined for normal visibility, and

wherein the driver-specified minimum time gap is modified to account for visibility condition by increasing the driver-specified minimum time gap using a first linear coefficient representing visibility due to weather conditions and a second linear coefficient representing visibility due to brightness.

6. (Previously Presented) The device according to claim 5, wherein the at least one sensor for detecting a road condition functions one of optically and by radar, the road condition including whether the road is wet or covered with snow.

7. (Previously Presented) The device according to claim 5, wherein the at least one sensor for detecting a brightness includes at least one photodiode.

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8. (Previously Presented) The device according to claim 5, wherein the distance control device increases the setpoint time gap during the poor visibility condition by 20 to 30% compared to normal visibility.

9. (Previously Presented) The device according to claim 7, wherein the at least one sensor further includes a detector that detects a circuit state of headlights of the motor vehicle.

10. (Canceled).

11. (Currently Amended) The device according to claim ~~[[10]]~~ 5, wherein the first linear coefficient varies between 0 and 1, 0 representing good weather and 1 representing poor weather, and the second coefficient varies between 0 and 1, 0 representing sunshine and 1 representing darkness.

12. (Previously Presented) The device according to claim 11, wherein the driver-specified minimum time gap is modified according to the following equation:

$$SZ^* = SZ \cdot (1 + X1 \cdot ISW + Y1 \cdot ID),$$

wherein SZ represents the driver-specified minimum time gap, ISW represents the first linear coefficient, ID represents the second linear coefficient and factors X1 and Y1 lie in an order of magnitude of 10 to 20%.

13. (Previously Presented) The device according to claim 11, wherein the driver-specified minimum time gap is modified according to the following equation:

$$SZ^* = SZ + X2 \cdot ISW + Y2 \cdot ID,$$

wherein SZ represents the driver-specified minimum time gap, ISW represents the first linear coefficient, ID represents the second linear coefficient and factors X1 and Y1 lie in an order of magnitude of 0.1 to 0.3 seconds.

14. (Previously Presented) The device according to claim 5, wherein the at least one sensor for detecting a road condition operates one of optically and by radar, and the at least one sensor for detecting a brightness includes at least one photodiode.

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15. (Previously Presented) The device according to claim 14, wherein the distance control device increases the setpoint time gap during the poor visibility condition by 20 to 30% compared to normal visibility.

16. (Previously Presented) The device according to claim 14, wherein the at least one sensor further includes a detector that detects a circuit state of headlights of the motor vehicle.

17. (Currently Amended) ~~The device according to claim 14,~~ A device for controlling distance for a motor vehicle, comprising:

a distance control device for determining a setpoint time gap with respect to a vehicle driving ahead as a function of a traveling speed and of a driver-specified minimum time gap; and

at least one sensor for recognizing a poor visibility condition, the at least one sensor including at least one sensor for detecting a visual range in a vicinity of the vehicle using reflection measurement, the at least one sensor including at least one sensor for detecting a road condition and at least one sensor for detecting a level of brightness and adapted to recognize darkness;

wherein, in response to the poor visibility condition, the distance control device increases the setpoint time gap determined for normal visibility,

wherein the at least one sensor for detecting a road condition operates one of optically and by radar, and the at least one sensor for detecting a brightness includes at least one photodiode, and

wherein the driver-specified minimum time gap is modified to account for visibility condition by increasing the driver-specified minimum time gap using a first linear coefficient representing visibility due to weather conditions and a second linear coefficient representing visibility due to brightness.

18. (Previously Presented) The device according to claim 17, wherein the first linear coefficient varies between 0 and 1, 0 representing good weather and 1 representing poor weather, and the second coefficient varies between 0 and 1, 0 representing sunshine and 1 representing darkness.

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19. (Previously Presented) The device according to claim 18, wherein the driver-specified minimum time gap is modified according to the following equation:

$$SZ^* = SZ \cdot (1 + X1 \cdot ISW + Y1 \cdot ID),$$

wherein SZ represents the driver-specified minimum time gap, ISW represents the first linear coefficient, ID represents the second linear coefficient and factors X1 and Y1 lie in an order of magnitude of 10 to 20%.

20. (Previously Presented) The device according to claim 18, wherein the driver-specified minimum time gap is modified according to the following equation:

$$SZ^* = SZ + X2 \cdot ISW + Y2 \cdot ID,$$

wherein SZ represents the driver-specified minimum time gap, ISW represents the first linear coefficient, ID represents the second linear coefficient and factors X1 and Y1 lie in an order of magnitude of 0.1 to 0.3 seconds.